

cobalt ions;
a complexing agent; and
as a reducing agent, an alkylamine borane that is free from alkali metal.

25. (NEW) The electroless-plating liquid according to claim 24, further comprising:
at least one of

- (i) a stabilizer selected from one or more kinds of heavy metal compounds and sulfur compounds, and
- (ii) a surfactant.

26. (NEW) The electroless-plating liquid according to claim 24, wherein said electroless-plating liquid has a pH within a range of from 5 to 14 via a pH adjusting agent that is free from alkali metal.

27. (NEW) An electroless-plating liquid for selectively forming a plated film on a surface of an exposed interconnect of a semiconductor device having an embedded interconnect structure, said electroless-plating liquid comprising:

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- cobalt ions;
 - a complexing agent;
 - a compound containing a refractory metal; and
 - as a reducing agent, an alkylamine borane that is free from alkali metal.

28. (NEW) The electroless-plating liquid according to claim 27, wherein said refractory metal comprises at least one of tungsten and molybdenum.

29. (NEW) The electroless-plating liquid according to claim 27, further comprising:
at least one of

(i) a stabilizer selected from one or more kinds of heavy metal compounds and sulfur compounds, and

(ii) a surfactant.

30. (NEW) The electroless-plating liquid according to claim 27, wherein said electroless-plating liquid has a pH within a range of from 5 to 14 via a pH adjusting agent that is free from alkali metal.

31. (NEW) A semiconductor device having an embedded interconnect structure of copper, copper alloy, silver or silver alloy interconnects, wherein a surface of an exposed interconnect is selectively covered with a protective film, said protective film being formed by performing an electroless-plating process with use of an electroless-plating liquid, said electroless-plating liquid comprising:

(i) cobalt ions;

(ii) a complexing agent; and

(iii) as a reducing agent, an alkylamine borane that is free from alkali metal.

32. (NEW) The semiconductor device according to claim 31, wherein said electroless-plating liquid further comprises at least one of

(i) a stabilizer selected from one or more kinds of heavy metal compounds and sulfur compounds, and

(ii) a surfactant.

33. (NEW) The semiconductor device according to claim 31, wherein said electroless-plating liquid has a pH within a range of from 5 to 14 via a pH adjusting agent that is free from alkali metal.

34. (NEW) A semiconductor device having an embedded interconnect structure of copper, copper alloy, silver or silver alloy interconnects, wherein a surface of an exposed interconnect is

selectively covered with a protective film, said protective film being formed by performing an electroless-plating process with use of an electroless-plating liquid, said electroless-plating liquid comprising:

- (i) cobalt ions;
- (ii) a complexing agent;
- (iii) a compound containing a refractory metal; and
- (iv) as a reducing agent, an alkylamine borane that is free from alkali metal.

35. (NEW) The semiconductor device according to claim 34, wherein said refractory compound comprises at least one of tungsten and molybdenum.

36. (NEW) The semiconductor device according to claim 34, wherein said electroless-plating liquid further comprises at least one of

(i) a stabilizer selected from one or more kinds of heavy metal compounds and sulfur compounds, and

(ii) a surfactant.

Cond - 37. (NEW) The semiconductor device according to claim 34, wherein said electroless-plating liquid has a pH within a range of from 5 to 14 via a pH adjusting agent that is free from alkali metal.

38. (NEW) A semiconductor device having an embedded interconnect structure, wherein a surface of an exposed interconnect is selectively covered with a protective film of an alloy comprising cobalt and a refractory metal.

39. (NEW) The semiconductor device according to claim 38, wherein said refractory metal comprises at least one of tungsten and molybdenum.

40. (NEW) The semiconductor device according to claim 38, wherein said protective film has a thickness within a range of from 0.1 nm to 500 nm.